



**PATIENT**

Riley Munko

**PRESENTING CLINICAL SIGNS**

History: New 3/6 murmur on PE.  
 -CXR report: slight cardiomegaly with LA enlargement, possible aortic enlargement noted.  
 -Current medications: none, owner unsure about grain free diet, will be checking.  
 -Sedation used: Not needed.  
 -STAT: Not requested.

**SPECIES**

Canine

**BREED**

Golden Retriever

**SEX**

Male Neutered

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. The mitral valve leaflets are mildly thickened with no prolapse into the left atrial lumen. Trace mitral regurgitation noted with normal left atrial dimension. Normal LV diameter with adequate myocardial function. The LV wall thickness is mildly increased (1.5cm). The tricuspid valve appears subjectively normal, no tricuspid regurgitation. Normal right atrial and ventricular diameter and morphology. The pulmonic valve is normal in morphology and mobility. The aortic valve appears mildly thickened with trace/mild aortic insufficiency. Mild subaortic narrowing in systole (see below). Normal pulmonic and mildly elevated aortic outflow velocity. No pulmonic insufficiency. No pericardial or pleural effusion noted. A small hyperechoic lesion is noted adjacent to the aortic root, extremely 2cm in diameter (seen in multiple imaging planes).

**AGE**

11 years

**CARDIAC CHART**

**WEIGHT**

95lbs

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT	NA	NA	NM	1.3	32	60	nm
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (kg)	LA 2D short axis Base view (cm)	LVIDd Avg; 2D and m-mode short axis (cm)	LVIDs Avg; 2D and m-mode short axis (cm)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6	BELOW	BELOW	BELOW	BELOW
PATIENT	130	2.6	1.0	43.1	3.7	4.7	3.2
*Normal chamber parameters expressed as a mean value (SD)				3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)
<b>BODY WEIGHT DEPENDENT PARAMETERS</b>				5	1.40 (4.5)	2.74 (5.2)	1.60 (4.7)
<i>*Note: All measurements based upon multi-modal images and methods. An average value is reported.</i>				10	1.50 (3.8)	3.27 (3.5)	2.06 (3.1)
				15	1.83 (2.0)	3.71 (2.4)	2.43 (2.1)
				20	2.02 (1.9)	4.14 (2.2)	2.80 (2.0)
				25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)
				30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
				35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
				40	2.62 (5.2)	5.48 (6.1)	3.96 (5.4)
				50	2.88 (7.1)	6.07 (8.3)	4.46 (7.4)

Adapted from June Boon, Veterinary Echocardiography, 1998  
 Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435  
 Hansson et al, Vet Rad and Ultrasound 2002  
 Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995

**INTERPRETED BY**

Maggie Machen  
 Lamy, DVM, DACVIM  
 (Cardiology)

**HOSPITAL NAME**

Stay Pet Veterinary

**REFERRING VET**

Dr. Klimovitz

**INVOICE**

20690

**DATE**

8/23/21

## **INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The likely cause of the murmur is mildly elevated blood flow velocity through the LVOT and aortic root, consistent with mild sub-aortic/aortic stenosis (SAS/AS). The LV wall dimensions are mildly increased, indicative of mild pressure overload. This has likely been present since birth given the signalment and is of little clinical significance in a senior dog. This does explain the radiographic abnormalities. Why the murmur was not auscultated before is difficult to explain; however, ruling out any volume changes that may be contributing to murmur intensity is recommended through routine lab work. A small mitral leak is considered physiologic at this juncture; however, follow up is advised. Finally, a small hypoechoic lesion is noted adjacent to the aortic root. This is most likely a small incidental chemodectoma, which is of little clinical significance at this time. Monitoring for growth is advised going forward. No additional issues are identified.

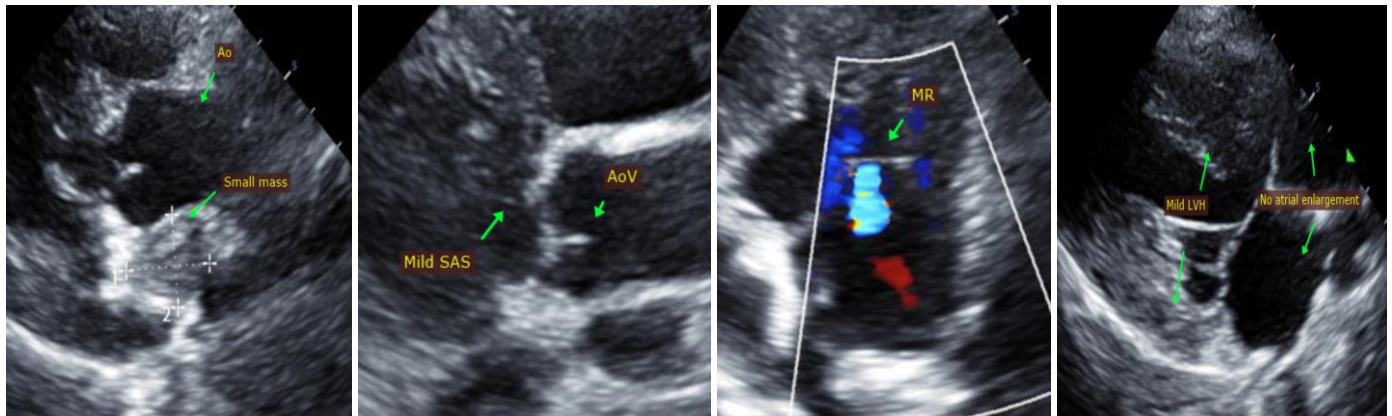
The prognosis long-term is open given the age of the patient and lack of clinical issues. Follow up is advised to screen for any progressive changes.

From a cardiac standpoint, monitor for development of labored breathing, exercise intolerance or collapse episodes, as SAS patients are more predisposed to development of arrhythmias than to CHF (particularly in this breed). No cardiac medications are indicated; however, as most patients with a mild SAS will live a normal life free of complications.

Anesthetic risk is low. Avoid heart rate stimulating drugs such as atropine or glycopyrrolate unless clinically indicated. Recommend prophylactic antibiotics for any orthopedic or dental procedure in the future given slight predisposition to endocarditis. Avoid heart rate stimulating drugs such as Atropine, unless clinically necessary.

A recheck echocardiogram is recommended in 6-12 months to screen for progression.

## **IMAGES**



**The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

Thank you for this referral. This report was generated using transcription software, and minor dictation errors may be present. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance, please contact me.

**Maggie Machen Lamy, DVM**  
**Diplomate of the American College of Veterinary Internal Medicine (Cardiology)**  
**Email: [info@sonopath.com](mailto:info@sonopath.com)**